Subscribe Now

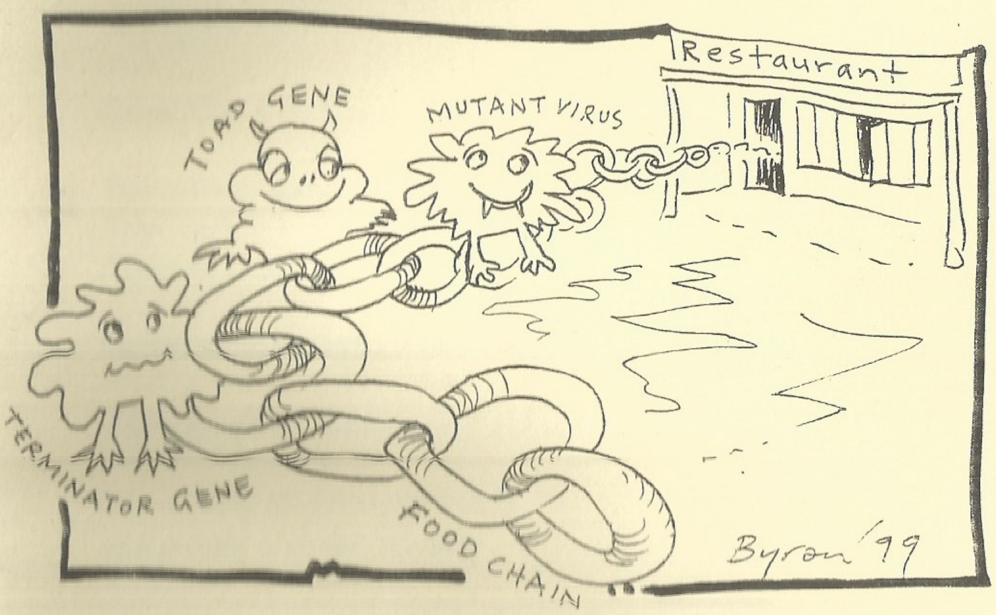
The Spark, the journal of the Workers' Party of New Zealand, puts the spotlight on the inequalities created by imperialism, the system of monopoly capitalism. *The Spark* has been an unwavering voice championing the rights of the workers, jobless and poor since it began in 1991. Published twice a month *The Spark* is essential reading for all those who want to understand the world, and to change it.

Send $15 for 10 issues or $30 for 20 issues posted in New Zealand. Overseas rates available on request.

PO Box 10-282, Dominion Road, Auckland.

Gene Foods

- the dangerous experiment



A Workers' Party of New Zealand publication $1

Published August 2001 by the Workers' Party of New Zealand
PO Box 10-282, Dominion Road, Auckland, New Zealand
email: wpnz@clear.net.nz
http://home.clear.net.nz/pages/wpnz

CONTENTS

Introduction 2

Royal Commission on Genetic Modification rules:
PROFIT COMES FIRST 3

Outcome of Commission predicted in
The Spark April 1999 5

Gene food & crop bans spreading 6

The risks of gene-altered foods
Govt. policy – turn people into guinea pigs
A quantum leap – in the dark 7

Gene foods losing in the field and in the shops.........12

Gene foods off the menu in more and more places .. 14

Genetically Engineered foods
lack proper scientific scrutiny 16

Leading British scientist declares
'genetically engineered foods inherently risky' 19

Introduction

As the big biotech corporations set out to spread genetically engineered foods and crops across the globe something else was spreading. The public were raising their voices in protest at the risky business of gene foods. The Workers' Party of New Zealand have been active opponents of gene foods and crops. Early on we campaigned for a ban of gene foods. It was not enough to label, we said; the public should be protected from the risks of these foods. We also opposed the establishment of a Royal Commission of Enquiry into Genetic Modification, noting it would be appointed by capitalist politicians and would not represent the peoples' interests.

We stood firmly behind objective science and resolutely against corporate science which was motivated by profit and had no intention of serving the people.

Our stance drew big support from the public. Thousands of stickers saying 'BAN GENE FOODS' have been distributed since 1999, and in 2001 the WPNZ launched a signature protest calling for: 'gene foods and crops to be banned to ensure no-one is put at risk. There have been no studies showing the long-term effects of genetically engineered foods on public health. The potential risks are too great. We do not want to be guinea pigs in an uncontrolled experiment'.

We hope readers of this pamphlet will come forward to help with the WPNZ campaign to ban gene foods.

In this pamphlet is a collection of some of the articles on gene foods from the WPNZ journal *The Spark*. There are many more articles published by the WPNZ on gene foods and these can be read on our internet site http://home.clear.net.nz/pages/wpnz

Royal Commission on Genetic Modification rules: PROFIT COMES FIRST

The Spark 2 August 2001

The report by the Royal Commission on Genetic Modification has finally been released. Its verdict: GE should proceed, albeit cautiously. The reasons given for the go-ahead are revealing; it's all a question of 'economics'. The public are to be the unwilling subjects in an uncontrolled experiment with food and crops for the profit of the biotech corporations.

The Royal Commissions findings may have shocked the Greens, but it came as no surprise to the Workers' Party which predicted such an outcome in *The Spark* April 1999 when the Greens were pushing for an inquiry. We noted then that capitalist politicians appoint such commissions and the majority of appointees will be pro-business. (See panel)

The Commission's report has been praised by the tory parties Act, National and Labour. As for the Alliance it is behaving like a good little lap-dog of Labour. It is saying nothing and doing nothing. Minister for the Environment, Marion Hobbs, thinks the report is marvellous, naturally enough as it conforms to Labour's pro-GE stance. Never mind that the long-term effects of gene foods are simply not known *and no tests have been done to determine such effects.* Crawling to the captains of industry is far more important than worrying about public health. The Greens too are focusing on 'economic advantage' – the difference being they argue for organic farming rather than GE.

What seems to be overlooked is that New Zealand has had hundreds of gene foods on the supermarket shelves for several years, against the wishes of a big section of the public. These foods have not been tested for safety, they are treated as if they were the same as conventional foods. But GE is a huge leap into the unknown, and history is full of unforeseen disasters. It is not enough to call for labelling of such foods – to ensure no-one is put at risk gene foods need to be banned. That has been our message, repeatedly in *The Spark*.

What the Commission's Report does is assume that gene foods are harmless yet there is growing evidence of increased risk of allergies from such foods, which in some people can be fatal. Not long ago a GE corn, Starlink, produced in the US, was discovered to have such allergenic properties. Attempts to recall the corn showed up that the Starlink GE corn had contaminated regular corn stocks.

The Commission's report puts forward the absurd notion that gene crops can be contained. There is much evidence to the contrary such as in Canada where genetically engineered canola plants are showing up in farmers' fields all across the Canadian prairie, even though many of them have never planted GE seeds. A plant scientist, Martin Entz revealed 'The GM canola has, in fact, spread much more rapidly than we thought it would, it's absolutely impossible to control.' *(Biodemocracy News letter* 14 July 2001).

Dr Peter Wills, a physics professor at Auckland University, summed up the Commission's report as 'fairly superficial'. He notes, 'it leaves all the important power structures in place. It leaves the power with the universities, the Government and industries, and all of the people who have some objection to GE will feel very disenchanted because they've not been taken any notice of'. (*New Zealand Herald* 31.7.01).

The Commission heard eminent scientists warn of the unpredictable nature of genetic engineering and of the dangers of increased antibiotic resistance in bacteria because of gene crops. They were told that gene crops were not particularly successful, that they often came with increased allergy risks and that there has been almost no peer-reviewed scientific research published showing that gene crops are safe for the environment. They heard that some scientists were concerned of increased risk of cancer because of a protein used in the gene splicing process and that superpests and superweeds are a real risk. They heard that significant number of Maori are firmly opposed to GE foods and crops and the use of human genes in other organisms.

The Commission heard a huge number of submissions, but when it came time to decide there was no contest, the god of profit prevailed. Protecting biotech corporations was the key thing, not making public health a priority.

The biotech corporations have tried to foist GE on the public by treating it as a fait accompli. It's everywhere and there's nothing people can do about it, they say. But the mass opposition around the world has succeeded in rebutting this tactic. Determined struggle has seen the food banned in some countries.

That is the most forward-looking approach. The public do not wish to be guinea pigs in an experiment for profit for the multinational biotech industry. That is why now more than ever the demand for gene foods and crops to be banned is vital. □

Outcome of Commission predicted in The Spark *April 1999*

When the Greens were pushing for a Royal Commission we warned in *The Spark* that faith in such commissions is unjustified and that it would be stacked with pro-business commissioners selected by government.

'We hold that there is really only one safe decision that can be made, and that is a total ban on the production, distribution and sale of genetically modified foods. We would not expect any such decision from this or any other capitalist government. World experience teaches that. Capitalism makes the rules and it makes them in the interests of the biggest capitalists'.

Gene food & crop bans spreading

The world-wide opposition to gene foods and crops has forced many governments to reject the technology. There are just three countries which produce almost 99 percent of all GE crops-the US (74%), Argentina (15%), and Canada (10%). The demand for these crops is shrinking, not growing. *(Biodemocracy Newsletter* 14 July 2001).

Since biotech crops came on the market in 1996, US farm exports have fallen from $60 billion a year to $51 billion-a decline of 15 percent The US has lost $400 million a year in corn exports to the EU, while Canada has lost a similar amount in canola exports. Bernard Marantelli, a spokesperson for Monsanto UK, admitted April 18 that GE canola acreage in Canada this year 'went down. a significant amount'. A similar pattern is emerging in soybeans, with US GE soya essentially being boycotted by major companies in Europe, Japan, Korea, and other nations.

Over the past year, major EU food corporations and fast food chains have also begun to remove all GE corn and soya from their animal feed. Already 25 percent of all EU animal feed is now GE-free. Meanwhile exports of GE-free grains from Brazil, Australia, India, and China are expanding. Sources in the EU feed industry say the present demand for certified non-GMO soybean meal has grown from nearly zero to 25 percent in only 12 months, with the expectation of further increases in the coming year. (*AgJournal UK* 30 May 2001)

The risks of gene-altered foods
Govt. policy – turn people into guinea pigs
A quantum leap – in the dark

The Spark May 1999

All the propaganda about how gene foods are going to enormously enlarge the world's food supply and thereby abolish poverty is just that – propaganda. It comes mainly from the great biotech companies which supply the foods: Monsanto, Novartis, Hoescht Chemical in Germany, and Du Pont. They also supply genetically engineered crops of all kinds.

Anyone who knows anything about economics and economic history knows perfectly well that corporations are in business for profit, not to serve the people. There is a vast gap between these two objectives. And the present rush by multinationals such as those mentioned above is evidence of this fact, for there are huge profits being made and rapidly expanding. All of these billion-dollar companies, once among the worlds greatest producers of chemicals, have decided to shed or sell parts of their chemical divisions according to US ecologist Jeremy Rifkin. In the next ten years, he says in a *New Scientist* article of 31 October, 1998, the major companies hope to introduce gene-spliced organisms over millions of acres of land and even into the water. Pretty prospect – for their balance sheets, but not the world's peoples.

The jumping gene

Genetic engineering is by no means the same thing as classical breeding. Artificial breeding can produce hybrids, and many are beneficial rather than harmful. That has been tested in practice over centuries. The same cannot be said for gene-altered foods. Gene foods are several quantum leaps greater in time scale. Likewise in the scale of production. With thousands of introductions propagating in land, water and air over the next twenty years the life science companies want to have the world full of genetically engineered crops, both food and pharmaceuticals in less than ten years, while they control their production and use through worldwide patents.

In nature we find genes jumping from one species to another. But it is a slow process. Genetic engineering speeds it up enormously. Only a small proportion of genes jumping between species can have incalculable effects on food supply, to mention no other forms of genetically modified substances – and there are many, such as biodegradable plastics, chemicals and vaccines.

A quantum leap into uncharted territory

No scientist, no geneticist can predict the long-term effects of the circulation of many gene-altered foods in man's diet. We have seen the tragic effects of drugs gone wrong, such as thalidomide. That was only one case, and it went through a far more rigorous, 5-year programme established for testing new medicinal drugs than any gene foods have.

To make a simple comparison, for a great many centuries men have made weapons. At some point a new offensive weapon would be created, only to be outdated by new defensive weapons until the next advance in offensive weapons. From stone clubs to shields, from these to spears, from these to armour, from this to the longbow, from this to the musket and later the rifle. From wooden ships to iron ships then to naval artillery to still heavier naval armour, from torpedoes and mines to protective electric currents; from defensive trench warfare to tanks and armoured vehicles, from these to anti-tank weapons and aircraft to use them, from high-explosive bombs and planes to deliver them to surface-to-air missiles.

These are still a mainstay of big power armaments – but all are totally dwarfed in power and importance by nuclear weapons. There is no defence against these, and there may never be. Here was a gigantic quantum leap in weaponry such as had never been accomplished before.

A new and threatening quantum leap

The plain fact of the matter is that today we face another gigantic quantum leap in the mass introduction of genetically modified foods into society's diet, however much their potential dangers are played down and reduced to insignificance by not only the biotech producers but also by governments that are hand in glove with the makers.

In New Zealand we are already facing a situation where 500 genetically modified foods are on supermarket shelves. The Alliance MP Phillida Bunkle introduced a private members' bill into parliament calling for labelling of gene foods. Mrs Shipley whipped the Government into voting it down, which meant parliament would do nothing. Recently she has pretended to support labelling while ignoring the Government's rejection of Ms Bunkle's labelling bill. But how can anyone take this seriously? It is nothing but a cheap political ploy supported by Monsanto Corporation, the chief supplier of gene foods. On top of this there has been a requirement to register such foods by 13 May 1999 and apply to the Australia New Zealand

Food Authority for approval. A last-minute rush to ensure compliance has seen 14 companies registered. But the catch is that these are exempt until June next year – thirteen months – from having to take measures against gene food sales.

Science as a tool of big business

And in case you missed the point of big business control over food supply, consider the Environmental Risk Agency (ERMA). This was set up in July 1988 with the responsibility to process applications to import or manufacture hazardous substances or to import or develop new organisms, including those developed through genetic engineering. Who are its members? The chairman of Hellaby Holdings Ltd., a very big businessman; the Airways Corporation chairman and Wilson and Horton director. Neither of these are scientists but they are the most powerful people in ERMA. There are also several public servants who have official positions with state agencies, and just one university director of gene research.

The possiblity of catastrophe

There is absolutely no representative of the general public, nor any known opponent of genetic engineering. There is just one gene researcher – but whether pro or con gene foods is kept under wraps. Even if the whole Commission consisted of geneticists, we defy them collectively or individually to predict the long-term effects of gene alterations. There is a vast number of possible, harmful long-term effects which simply cannot be determined in advance. The possibility of a catastrophe is strong. And suppose there was one? No insurance company would cover it or its sufferers. The insurance companies base their cover on actuarial tables which quantify particular risks. But in this case there is no way of assigning risks, there is no ecological risk assessment science, and therefore no insurance cover can be obtained.

So what does all the posturing of politicians and bland assumption of superior knowledge as to the effects of altering gene structure in the foods we eat add up to? Just playing God with the future of humanity, that's all.

Damn the public, profits come first

There is only one way to ensure that no-one is at risk from gene-altered foods. They must be banned, not just labelled. There are some capitalist governments in Europe which have taken steps in this direction. That is not the case in the USA or New Zealand. The biggest multinational supplier of genetically modified foods is the Monsanto Corporation in the USA. They have great economic clout. No matter what investigation reveals as to the effects of gene foods, it is clear from opposition to just gene-food labelling that the Government is hand in glove with Monsanto and manoeuvring to ensure that their profits from New Zealand sales do not suffer.

This is fully in line with the Government's New Right policy of 'damn the public' profits come first.

For our part, the Workers' Party of New Zealand declares that in order to protect the people of this country from being turned into guinea pigs GENE FOODS MUST BE BANNED.☐

Gene foods losing in the field and in the shops

The Spark 7 June 2000

The biotech giant corporations are under siege with growing protest by consumers demanding gene foods be banned because they have not been properly tested. Even British Prime Minister, Tony Blair, has moved from supporting gene foods and declaring them safe, to recognising the potential for real health risks and questions their usefulness.

An indication of the inherent risks with gene foods came in late May when it was reported that research by a prominent German zoologist, Professor Kaatz, found that the gene used to modify oil-seed rape had transferred to bacteria living inside honey bees. This finding that genes used to genetically engineer crops can jump the species barrier destroys the claims of the biotech companies that genes cannot spread. It raises the question can this happen for the bacteria inside the human stomach? The longterm effects of gene foods are simply not known.

The US National Academy of Sciences released a report in April on genetically engineered crops. Although the biotech industry claimed the report was favourable it actually raised important concerns about the safety of gene foods. It noted:

- New allergens and toxins may be introduced into foods or into pollen and spread into the environment.
- Existing toxins in foods may reach new levels, or may be moved to edible portions of plants.
- Previously unknown protein combinations now being produced in plants might have unforeseen effects when new genes are introduced into the plants.
- Nutritional content of a plant may be diminished. (Source: Purefood website).

Earlier in May there was a storm of protest from consumers and farmers in Europe when it was found that major rapeseed (canola) seller Advanta Seeds, a subsidiary of biotech giant AstraZeneca, admitted that genetic drift from gene-altered canola fields in Canada had contaminated certified non-GE-seed export shipments to Britain, France, Germany and Sweden. In Italy thousands marched a week later to demonstrate outside a pro-GE conference. In Asia, too, there is growing concern and Japan's ministry of health has announced that from next year agricultural producers must screen imported gene-foods for potential food allergies and other health hazards.

The biotech corporations' claims that gene-crops are a big improvement on ordinary hybrid techniques are being steadily disproved by crop failures. That is what US cotton farmers are finding out as gene-altered cotton fields in North Carolina and Georgia are becoming infested with stink bugs that are eating up the cotton. The GE-cotton releases a toxin that does not kill the stink bug but wipes out its natural predators and parasites, turning it into a major pest.

In May 2000 Monsanto announced it would stop production of biotech potatoes that it had been growing since 1992. Like Monsanto's Flavr Savr tomatoes that were also taken off the market, the potatoes turned out to be a flop in the field and in the stores.

The biotech giants are not yet beaten and they have launched a $50 million a year public relations campaign to try to sell gene foods to the American public who are also growing increasingly opposed to such foods.

The mounting evidence of the risky nature of gene foods confirms the need for a ban on gene foods. Labelling is not enough because it does not remove the risk but merely limits it. Many people and organisations around the world are demanding a ban and the biotech industry is feeling the pressure. The more pressure, the better. □

Gene foods off the menu in more and more places

The Spark 1 February 2001

The Royal Commission of Inquiry into Genetic Modification has resumed after taking a break over the holiday period. One of the first submissions came from Physicians and Scientists for Responsible Genetics. The group expressed concern that a lot of the research seemed to be driven by commercial interests.

There was mounting evidence of an inherent risk in moving genetic material between organisms the group warned. Their spokesman gave a recent example of the unpredictable nature of genetic engineering. In Australia scientists undertaking experiments designed to make mice sterile unwittingly created a mice-killing virus. Within days all the mice had died.

Another group speaking out on the issue, GE Free New Zealand, has warned of the dangers of increased antibiotic resistance in bacteria because of gene crops. 'Virtually all genetically engineered crops contain antibiotic resistance genes that are used in the process of gene-transfer', said Jon Carapiet, spokesperson for the organisation. 'This is exactly why the British Medical Association and the NZ College of GPs have warned against approvals of GE-foods, and this should be a wake-up call to authorities'.

Not so long ago biotech corporations were boasting that gene foods and farming were on the verge of conquering the world. The stocks in these companies were predicted to soar. But things have turned out differently. The monthly bulletin *BioDemocracy News* has summarised recent developments which we have excerpted below.

Allergenic corn discovered

The biotech corporations suffered a serious setback September 2000, when the Genetically Engineered Food Alert coalition revealed that an illegal, likely allergenic variety of genetically engineered corn Cry9C, called StarLink, had been found in Kraft taco shells. The biotech industry at first tried to deny the validity of the lab tests done by the Food Alert coalition, but within days public pressure forced Kraft, the largest food corporation in America, to recall 2.5 million boxes of the corn tacos. This action was followed by a halt of sales of Cry9C seeds by Aventis (a large biotech firm) and a formal recall order issued by the US Department of Agriculture for all 350,000 acres of StarLink corn planted across the United States.

Critics of gene foods for years have warned that splicing foreign proteins into common food products, proteins which in most cases humans have never eaten before, can set off dangerous food allergies – with symptoms ranging from fever, rashes, and diarrhoea to anaphylactic shock and sudden death. Around eight percent of all US children suffer from food allergies, and that situation is growing worse. Nutritionists warn of a suspected link between food allergies and asthma. Even the staid *New England Journal of Medicine* warned in its 14 March, 1996 issue that unlabelled genetically engineered foods are 'uncertain, unpredictable, and untestable.'

In the wake of the StarLink crisis, some of the largest US food and animal feed processors, such as Kelloggs, either temporarily closed their grain mills or announced mandatory testing for Cry9C corn. Meanwhile, the White House sent emergency teams to Japan and Europe, trying to reassure major US trading partners that the StarLink controversy would be kept under control.

Scores of food companies and supermarket chains (not to mention grain elevators and farmers) have begun totalling up several hundred million dollars in losses. Consumers claiming to have been poisoned by StarLink corn products are filing lawsuits.

Stampede for profits

The appalling lack of US government regulation and the greed of so-called Life Science corporations to rush untested – and in this case, likely dangerous products – to market have now become obvious, even in the heartland of biotech, the United States.

For the first time in five years the amount of global acreage devoted to biotech crops has levelled off and appears headed in 2001 for significant decreases. An article in the *Toronto Star,* 9 January 2001, noted 'The StarLink controversy in the United States could cost the food industry billions of dollars and has thrown the future of genetically modified foods into doubt ... Already, 70 per cent of Americans told a *Reuters* poll last year that GE foods should be treated with caution'.

Following the StarLink disaster giant corn processor AE Staley stated 'the only truly safe seed selection [next year] will be corn free of any genetic modification'. Others are following this trend. McDonalds have announced that by April 2001 all its restaurants in Britain, Germany, Denmark and Sweden will serve only chicken raised on GE-free feed.

While the dangers associated with gene foods and crops becomes ever more apparent the New Zealand Government is dragging its heels. In fact, besides agreeing to food labels – which have yet to be implemented and will be of limited use – it has done little to diminish the risk to the public. Keeping the biotech corporations happy is clearly on the Government's agenda. But they cannot ignore the growing voices of protest, here and around the world. ☐

Genetically Engineered foods lack proper scientific scrutiny

The Spark 14 February 2001

Some scientists on the payrolls of big biotech corporations have declared genetically engineered foods are safe. In fact, these statements are just wishful thinking and don't stand up to scientific scrutiny. On the contrary, gene

foods and crops have been subject to only the most flimsy studies.

Where are the peer-reviews?

The prestigious journal *Science* in its 15 December 2000 issue carried an article which pointed out there has been almost no peer-reviewed scientific research published which shows that GE crops are safe for the environment. The authors of the article noted that researching environmental risks is likely to be complicated, with risks varying over time among crops, among strains of a single crop, and between environments. Some risks, they say, may be all but impossible to assess.

This point was made by US scientist, Steven Drucker, who was in New Zealand for the Inquiry into Genetic Modification. He said in a National Radio interview that to determine the safety of genetically engineered foods would take scientific trials of some 12 to 18 years for *each of the foods.* That was the opinion he had from a range of world class scientists.

Also in New Zealand for the inquiry was Dr Arpad Pusztai, the UK's most well-known critic of biotech. He has conducted a survey of the world scientific literature on animal feeding studies and found just four peer-reviewed articles on genetically engineered foods. Yet Monsanto and other biotech corporations claim that scores of scientific papers have proven their safety.

Pusztai's own studies in the late 1990s caused a major stir in Europe, when lab rats fed genetically engineered potatoes spliced with lectin (a common substance in GE foods) suffered serious damage to their vital organs.

The biotech corporations have avoided proper testing of their products by insisting they are not substantially different to foods and crops from traditional breeding methods. A growing body of scientists argue this is not so, that genetically engineered foods are qualitatively different and determining their safety is not really possible.

In many ways the biotech corporation's approach to genetically engineering foods is metaphysical and not scientific. What seems lacking is an appreciation of the dynamic interconnections and interactions at the submolecular level through to the environment as a whole. The random insertion of a gene into a sequence of DNA can have any number of effects which may take a long period of time to become apparent.

In the stampede to impose gene foods the biotech corporations have not learned from the many historical examples where unforeseen disasters have resulted from seemingly harmless activities. In the past, when science was in its infancy such mistakes could be forgiven; not today.

Predicted superpests arrive

As well as the risk to human health with gene foods it has long been recognised that genetic engineering is bound to create superpests. These predictions are being proved correct. The monthly newsletter *Biodemocracy* in its January issue reported that in China a major pest, cotton boll worms, is developing resistance to genetically engineered cotton plants. Similar pests have been reported in Australia and perhaps at a 'threateningly high level' according to scientific experts.

The Workers' Party of New Zealand has been campaigning for a ban of gene foods for several years. It is clear that corporate greed has been the driving force for gene foods, not concern to feed the world's hungry. Through various means the biotech corporations have done their utmost to stifle the opposition to gene foods. Despite this a growing body of objective and independent scientists are speaking out about their concerns.

Genetic engineering for medical purposes is in a different category as it is subject to rigorous testing. Furthermore, with medical treatments there is an accepted practice of weighing up risk factors against the risk of not having treatment. With foods no such acceptance of risks is permissible. The public have the right to safe and affordable food. Genetic engineering in foods is a giant step into the unknown and it has been taken without proper regard to food safety. ☐

Leading British scientist declares 'genetically engineered foods inherently risky'

The Spark March 5 2001

Dr Richard Lacey is a world-renown food safety expert who in 1989 warned of the serious health risks to the British cattle and human populations from the practice of feeding cattle rendered meat from sheep and other animals. His warnings were ignored by the government until years later they were forced to recognise that mad cow-infected beef could cause a similar, deadly disease in humans. He has been a long-time critic of genetically engineered foods and in a declaration to the United States District Court he warned of the risks inherent in gene foods. Below we print excerpts from his declaration of May 1999. (The full text is available www.biointegrity.org/laceydeclaration.html).

Declaration of Dr Richard Lacey
MD, Ph. D, Emeritus Professor of Medical Microbiology at the University of Leeds, UK

5. It is my considered judgment that employing the process of recombinant DNA technology (genetic engineering) in producing new plant varieties entails a set of risks to the health of the consumer that are not ordinarily presented by traditional breeding techniques. It is also my considered judgment that food products derived from such genetically engineered organisms are not generally recognized as safe on the basis of scientific procedures within the community of experts qualified to assess their safety

6. Recombinant DNA technology is an inherently risky method for producing new foods. Its risks are in large part due to the complexity and interdependency of the parts of a living system,

including its DNA. Wedging foreign genetic material in an essentially random manner into an organism's genome necessarily causes some degree of disruption, and the disruption could be multi-faceted. Further, whether singular or multi-faceted, the disruptive influence could well result in the presence of unexpected toxins or allergens or in the degradation of nutritional value. Further, because of the complexity and interactivity of living systems—and because of the extent to which our understanding of them is still quite deficient—it is impossible to predict what specific problems could result in the case of any particular genetically engineered organism. Prediction is even more difficult because even when dealing with one variety of a food-producing organism and one particular set of foreign genetic material, each insertion event is unique and can yield deeply different results.

7. The mechanics and risks of recombinant DNA technology are substantially different from those of natural methods of breeding. The latter are typically based on sexual reproduction between organisms of the same or closely related species. Normally, entire sets of genes are paired in an orderly manner that maintains a fixed sequence of genetic information. Every gene remains under the control of the organism's intricately balanced regulatory system. The substances produced by the genes are those that have been within the species for a long stretch of biological time. (In cases where mating is between closely related species, there is generally close correspondence between the substances produced by each.) In contrast, biotechnicians take cells that are the result of normal reproduction and randomly splice a chunk of foreign genetic material into their genome. This always disturbs the function of the region of native DNA into which the material wedges. Further, the foreign genes will usually not express within their new environment without a big artificial boost, which is supplied by fusing them to promoters from viruses or pathogenic bacteria. As a result, these genes operate essentially as independent agents outside the host organism's regulatory system, which can lead to many deleterious imbalances. Moreover, this unregulated activity produces substances that have never been in the host species before and are usually very different from any that have — which could lead to problems even if production

were at a low rather than a high level. There are several other major differences between genetic engineering and traditional breeding, all of which could, as can the above-mentioned ones, induce the presence of unpredicted toxins or allergens or the degradation of nutritional value.

8. Consequently, whereas we can generally predict that food produced through conventional breeding will be safe, we cannot make a similar prediction in the case of any genetically engineered food.

9. Therefore, the only way even to begin to assure ourselves about the safety of a genetically engineered food-yielding organism is through carefully designed long-term feeding studies employing the whole food; and it would be necessary to test each distinct insertion of genetic material, regardless of whether the same set of genetic material in the same type of organism has previously been tested.

10. Even if the most rigorous types of testing were performed on each genetically engineered food, it might not be possible to establish that any is safe to a reasonable degree of certainty, as is possible in the case of most ordinary chemical additives. However, we at least would be in a far better position than now to have greater confidence in these new foods.

11. I regularly attend professional conferences in my specialities and I keep abreast of the scientific literature. I also stay in communication with many life scientists and health professionals.

12. To the best of my judgment, neither genetically engineered foods as a general class nor any genetically engineered food in particular is generally recognized as safe among those experts qualified by training and experience to evaluate their safety.

13. I base this judgment on two factors. First, although many life scientists (including some molecular biologists) claim that genetically engineered foods pose no unreasonable risk, I know of many well-qualified life scientists who do not think that their safety has been established. For instance, a recent official statement of the British Medical Association seriously questions the assumption that genetically engineered foods are in general as safe as those produced by traditional methods. In my opinion, the number of scientists who are not convinced about the safety of genetically engineered foods

is substantial enough to prevent the existence of a general recognition of safety. Second, there is insufficient evidence to support a belief that genetically engineered foods are safe. I am not aware of any study in the peer-reviewed scientific literature that establishes the safety of even one specific genetically engineered food let alone the safety of these foods as a general class. Few properly designed toxicological feeding studies have even been attempted, and I know of none that was satisfactorily completed. Those who claim that genetically engineered foods are as safe as naturally produced ones are clearly not basing their claims on scientific procedures that demonstrate safety to a reasonable degree of certainty. Rather, they are primarily basing their claims on a set of assumptions that, besides being empirically unsubstantiated, are in several respects at odds with the bulk of the evidence. □

Workers' Party of New Zealand internet site

http://home.clear.net.nz/pages/wpnz

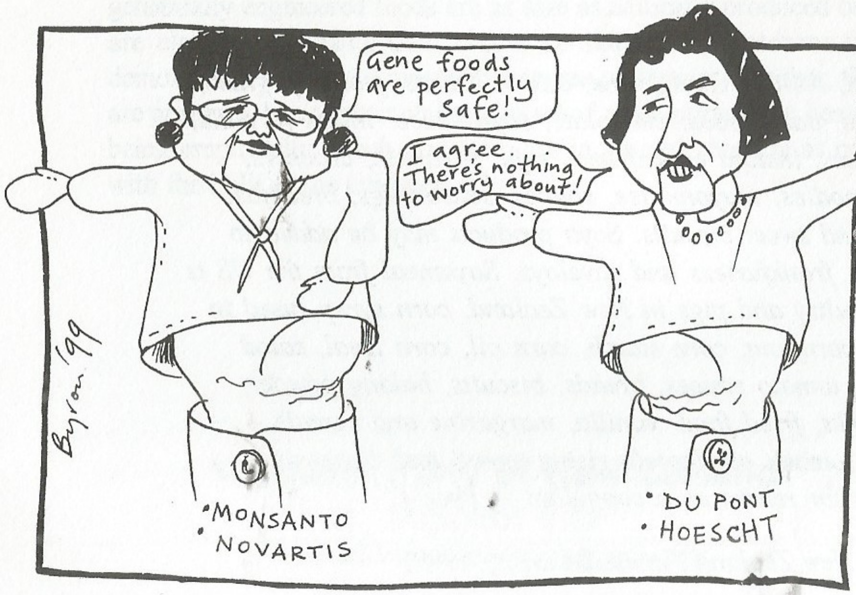
Here you will find many more articles on GE foods and crops plus our twice monthly journal *The Spark* and other WPNZ literature

Gene Foods in New Zealand

Foods containing soyabean, rapeseed oil, and maize products are likely to have gene-altered material in them:

Flour, oil, lecithin, margarine, cakes, breads, frozen yoghurt, ice cream, baby foods, chocolate, soya sauce, infant formula, pizza bases, instant milk drinks, tofu, soyamilk, crackers, pasta, noodles, mayonnaise, sauces, seasonings, breakfast cereals and sweet biscuits. Soya products may be added to sausages, frankfurters and saveloys. Soyameal from the US is fed to poultry and pigs in New Zealand, corn syrup (used in sweets), cornflour, corn starch, corn oil, corn meal, salad dressing, tomato sauces, breads, biscuits, baking powder, fizzy drinks, fried food, vanilla, margarine and cereals. Canola, tomato, amylase (a rising agent) and chymosin a substitue for rennet as a coagulant in cheese.

(Source: *New Zealand Fitness* June/July 1999).


Gene foods are perfectly safe!
I agree. There's nothing to worry about!
Byron '99
• MONSANTO
• NOVARTIS
• DU PONT
• HOESCHT